Whiskey Business: Forecasting Irish Whiskey Consumption

Four years of hard work have finally paid off. You have graduated from UVA and, armed with your world-class Data Science minor, have landed a lucrative first job working for a large alcohol retail chain as a data analyst. It is your first week on the job and your boss approaches you with your first assignment.

She has noticed what she believes to be a growing trend in American spirit consumption, specifically, a strengthening preference for Irish whiskey over Canadian and American substitutes. As whiskey is the second most popular spirit sold by your company, your boss asks you to investigate her hypothesis so you can stay ahead of the latest trends in alcohol consumption. [1]

The only problem… you have never worked with time series data before.

It's your first assignment. Your reputation with your boss is on the line. You can't screw this up. Luckily she has already provided you with the data.

All you need to do is figure out how to run the analysis.

Your task:
1. **Clean your data and prepare a final dataset for analysis.**
2. **Run pre-analysis on time series data prior to forecasting.**
3. **Forecast whiskey sales by region for the next 3 years and interpret results.**

Deliverables:
1. **A cleaned, properly formatted final dataset - ready for analysis - in excel format.**
2. **A one-page document assessing stationarity and autocorrelation test results.**
3. **A one-page document assessing forecasting model results and making a recommendation as to whether your model is an appropriate model for your company to base critical business decisions on.**

[1] "U.S. Consumption of Distilled Spirits by Segment 2022." n.d. Statista. https://www.statista.com/statistics/463077/us-consumption-share-of-distilled-spirits-by-category/.